Input into FR

The State committed itself to submit a revised version of this rule to EPA for approval by December 31, 1982.

Although EPA is proposing to approve the stand-by boiler and boiler derating provisions of this rule, whenever a boiler is derated or converted to stand-by status, the State must submit the applicable permit to EPA for informational purposes and to ensure consistent enforcement of the SIP.

RULE 3745-17-11

SYNOPSIS

This rule restricts the emission of particulate matter from industrial processes. The present Ohio SIP relies on rule AP-3-12 to restrict particulate matter emission from industrial processes. Under new rule 3745-17-11 fugitive emissions from industrial processes are not to be regulated by this rule but are instead regulated by rule 3745-17-08. Additionally, paragraph (A)(1) also exempts from compliance, shiploading operations, grain drying operations at grain elevators and certain salt glazing operations, during specified time periods. In addition to these changes, the rule has been revised to include specific provisions for Catalytic Cracking Units at Petroleum Refineries. Finally, paragraph (B)(4) of this regulation proposes to establish a requirement for the control of the coke quenching operation. This paragraph requires that an owner or operator of a quenching tower shall equip the tower with an interior baffle system which is designed and maintained in accordance with good engineering practice. This paragraph would modify the existing Ohio SIP, which requires that coke plant quench towers meet the process weight limitations of regulation AP-3-12. EPA believes that compliance with AP-3-12 would necessitate the practice of clean water quenching.

The maximum allowable emission limitation for any source regulated by rule 3745-17-11 is determined by referring to two graphs - "Figure II" and "Table I." Figure II utilizes the uncontrolled mass rate of emissions from a source to

determine the maximum mass rate of particulate matter allowed from that source. Figure II utilizes three curves - "P-I," "P-2" and "P-3" - to determine, on a county specific basis, the appropriate emission limitations. Paragraphs (B)(1)-(3) of new rule 3745-17-11 specify which curve is to be used in which county. Under the existing SIP, sources located in Allen, Clinton, Coshocton, Defiance, Henry, Jackson, Muskingum, Noble, Richland, Ross, Sandusky, Seneca, Shelby and Wyandot are subject to either Curves P-2 or P-3. According to new rule 3745-17-11 sources in these counties, as well as certain other counties specified in paragraph (B)(1), must comply with the emission limitations of Curve P-1.

Table I utilizes the process weight of all materials introduced into a particular process to determine the maximum mass rate of particulate emissions allowed for that process. With certain exceptions, the more stringent graph, Figure II or Table I, is to be used to determine a source's emission limitation where either graph may be applicable to determine its emission limitation. Table 1, however, is not to be utilized in the counties specified by subparagraphs (B)(2) and (B)(3). Among the counties listed in subparagraphs (B)(2) and (3), there are some primary and secondary nonattainment counties.

EPA proposes to approve this rule except for: [A] the emission limitation specified in the rule for Basic Oxygen Furnace (BOF) Shop primary stacks which utilize a "closed hood" control device, and for Sinter plant windbox and discharge end stacks, and [B] the provisions in (B)(4) for controlling emissions from coke quenching operations. EPA presents below in subsection [A] its rationale for its action on the Ohio Part D plan for Sinter plants and for those BOF shop primary stacks which utilize a "closed hood" control device. Presented below in subsection [B] is a discussion of EPA's rationale for proposing to conditionally approve the provisions in paragraph (B)(4).

[A] Rather than relying on rule 3745-17-11, the Ohio Part D plan for Sinter plants and for those BOF shops which use a "close hood" system to control particulate emissions from the primary stacks, will consist of site-specific emission limitations for the affected sources. These site-specific emission limitations will be contained within operating permits which will be submitted to EPA for review and approval. The State has indicated that these site-specific emission limitations will not be superseded by rule 3745-17-11.

In Ohio there are only two operating Sinter plants (Armco Inc. of Middletown, Ohio and Republic Steel Corporation of Youngstown, Ohio) and two operting BOF shops which use a "closed hood" system to control particulate emissions from the primary stacks (Republic Steel in Cleveland, Ohio and U.S. Steel in Lorain, Ohio)*.

For the two operating Sinter plants the State has already submitted site-specific emission limitations. EPA approved the Armco emission limitations on March 31, 1981 (46 FR 19468) as part of the Middletown, Ohio TSP plan. The Republic Steel emission limitations were approved on March 8, 1982 (47 FR 9834) and constitutes approval of only one small element of an acceptable overall Part D Plan for Mahoning County.

For the two BOF shop primary stacks which are controlled by a closed hood system the State, in its January 5, 1982, letter committed itself to submit by December 31, 1982 to EPA for review and approval, operating permits of RACT-level stringency for these two sources.

*A third BOF shop, operated by Armco in Middletown, Ohio was the subject of another SIP revison (46 FR 19468) and is not affected by today's proposed notice.

EPA proposes to approve the Ohio Part D plan for these two sources provided the State submits acceptable RACT-level stringency permits to EPA on or before December 31, 1982. EPA will only approve a site-specific permit which requires the application of RACT.

EPA's technical data, which are available for review, indicate that these two Ohio BOF shops which use a closed hood cleaning system are currently capable of producing concentrations of 0.02 gr/dscf or less. Therefore, EPA has concluded that an emission limitation of no greater than 0.02 gr/dscf would be representative of RACT for these two facilities unless additional documentation can substantiate a higher number as RACT for a particular source.

EPA notes that there are existing Sinter plants in Ohio which, although not presently operational, are capable of re-commencing operation in the future. Similarly, there may be existing non-operational BOF shops with "closed hood" control systems which will become operational in the future. In the event that any of these sources do re-commence operation, Ohio must ensure that these sources operate in compliance with the requirements of the Clean Air Act and rules and regulations of the Administrator of EPA. Furthermore, Ohio must submit all operating permits issued to such sources to EPA for review and approval. Finally, EPA notes that its action on the Part D plans for Sinter plants and BOF primary stacks which use "closed hood" control devices should not be interpreted as implying that rule 3745-17-11 established acceptable RACT-level emission limitations for these affected sources.

[B] EPA proposes to conditionally approve paragraph (B)(4). EPA does not believe that paragraph (B)(4) satifies the requirement for RACT since:

(1) it permits the quenching of coke with dirty process water, (2) it does not contain a definition of what constitutes an acceptable interior baffle system and (3) the standard to which the interior baffle system is to be compared, that of a system to be designed and maintained in accordance with good engineering practices (GEP), is vague and unenforceable. In a January 5, 1982, letter the State indicated that it would consider revising paragraph (B)(4) if EPA provides technical information to support the recommended RACT definition for coke quench towers. EPA proposes to conditionally approve this paragraph if the State, prior to final rulemaking, commits itself to revise this paragraph to be consistent with RACT and submits the paragraph to EPA by December 31, 1982.

With respect to the baffle and GEP design issues, at a minimum, Ohio must expand upon the concept of an acceptable baffle system by specifying the degree to which the horizontal cross section of the quench tower would be covered by baffles. U.S. EPA believes that coverage of at least 95% of the horizontal cross-section of the tower is a reasonable definition. In addition a definition of GEP must include a definition of an operating and maintenance program for ensuring the continued effective operation of the baffles.

However, a regulation which requires the use of baffles as the sole control mechanism for coke quenching is insufficient to satisfy the RACT requirement because it would permit quenching of coke using water containing uncontrolled total dissolved solids (TDS) levels, a practice which produces unacceptable quench tower particulate mass emission rates. Information EPA has placed in this docket indicates that baffled towers with "clean" water make-up streams will produce significantly lower air emission rates than those which would be generated if high TDS quenching is allowed.

Therefore, in addition to further defining the requirements for an acceptable baffle system, Ohio must adopt one of two alternatives to deal with the problem of quenching with water containing uncontrolled TDS levels. In the first instance, Ohio may develop a testable mass standard for quench towers which effectively requires clean water quenching. EPA acknowledges that particulate mass testing of coke quench towers to determine compliance with a mass limitation is both difficult and costly to conduct. Nevertheless, a modified U.S. EPA Reference Method 5 (40 CFR Part 60, Appendix A) technique has been developed and is available for review in the rulemaking docket on this notice. This technique would be approvable by EPA were it submitted by Ohio to satisfy this deficiency.

Alternatively, a water-quality based limitation is an acceptable approach to EPA. EPA has established that a linear relationship exists between air emission rates from a coke quench tower (in pounds per ton of coke), and the quality of water used for quenching coke (in milligrams per liter of total dissolved solids). This conclusion derives from studies of quench tower emissions based upon tests conducted at U.S. Steel Corporation plants in Lorain, Ohio and Gary, Indiana, and upon tests at the Dominion Foundry and Steel Company (Dofasco) plant

in Hamilton, Ontario, Canada. Reports of these tests are contained in the technical docket on this rulemaking at pages 508889, 509249, 509305, 509337, 509943, and 510243 and in the quenching technical support document.

On a filterable solids basis (EPA Method 5, 40 CFR Part 60, App. A), an increase of 1000 mg/l TDS in quench water results in air emission rates of between 0.15 - 0.49 lb/ton of coal charged into a coke oven depending on specific design factors. Therefore, EPA believes that controlling the TDS levels in water applied to coke affects air emission rates and that make-up water with a total dissolved solids value of no greater than that available from the nearest water source represents a standard achievable with reasonably available control technology. In the course of its rulemaking on Part D SIP revisions in other states, EPA has found to be acceptable TDS limits of 1500 mg/l in Illinois and Indiana, and 1600 mg/l in New York (State commitment to EPA). Similarly, Allegheny County, Pennsylvania has adopted a standard which requires that water of a TDS level equal to the nearest receiving stream be utilized for coke quenching. The method of analyzing for dissolved solids and the number of samples to be taken over a specified time period must also be denoted if Ohio chooses this alternative.